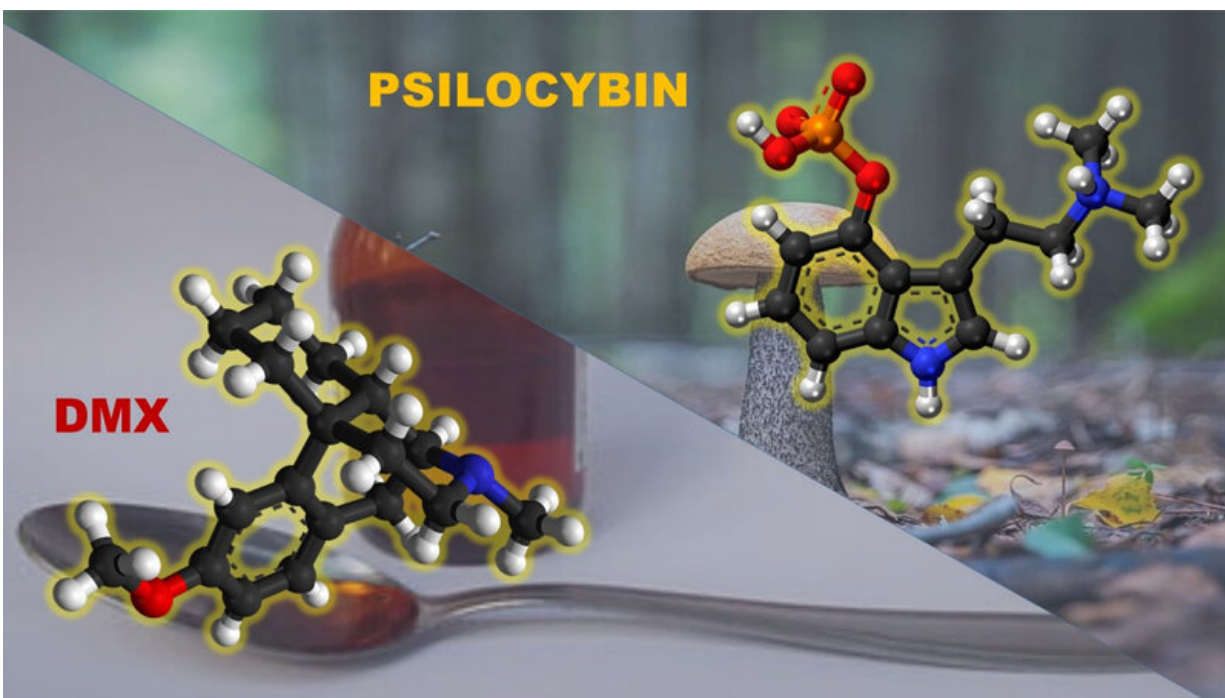


What motivates people to use psychedelics: New criteria may help provide the answer

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To create a new set of criteria for predicting why some drugs are likely to be abused, Johns Hopkins Medicine researchers looked at the motivation driving people to use two psychedelics: dextromethorphan (DMX), found in cough syrups, and psilocybin, found in “magic mushrooms.” Credit: M.E. Newman, Johns Hopkins Medicine, using public domain images

To understand why some drugs are likely to be abused, researchers in the past had identified effects on the brain and behavior shared among the

most abused drugs. These common effects include feelings of euphoria that "hijack" the system leading to pleasure during eating or sex, unpleasant withdrawal when not taking the drug, and drug-seeking behavior in laboratory animals.

As a result, the U.S. Food and Drug Administration established a list of reliably documented effects to predict abuse potential and recommend what [legal restrictions](#) should be placed on new medications before they are marketed. While this approach works well for predicting the recreational use of classic drugs of abuse such as opioids, stimulants, and sedatives, it doesn't answer the question of why people use traditional, nonmedical psychedelics such as LSD or psilocybin—the chemical found in "magic mushrooms."

Now, researchers at Johns Hopkins Medicine have proposed a solution by evaluating a new set of subjective effects that will predict the desire to use psychedelics. The researchers assessed these predictors with two psychedelics: psilocybin and dextromethorphan (DXM), a chemical found in low doses in over-the-counter cough medicine.

The team's findings are reported in the June 5, 2020, issue of the journal *Psychopharmacology*.

The researchers say the subjective effects they define in their study provide a "descriptive blueprint for understanding motivation for using psychedelics." The set of new features includes psychological insight, increased awareness of beauty, awe/amazement, meaningfulness and mystical-type experiences (e.g., a highly valued sense of unity), positive social effects and visual effects.

"Psilocybin currently is being evaluated as a treatment for various psychiatric conditions and there is increasing interest in developing related psychedelic drugs," says Roland Griffiths, Ph.D., the Oliver Lee

McCabe III Professor in the Neuropsychopharmacology of Consciousness at the Johns Hopkins University School of Medicine and director of the Johns Hopkins Center for Psychedelic and Consciousness Research. "Before making such drugs widely available as medicines, it is important to know why people have regularly taken these drugs for hundreds of years, so we can predict factors that might lead to future problematic nonmedical use."

The 20 participants in the trial had previously used [psychedelic](#) drugs. On five separate occasions during the study, they took either three different doses of psilocybin, a large dose of DXM or a placebo. Although DXM produced greater effects than the placebo on all of the subjective predictors of future use, psilocybin consistently yielded much larger effects.

"If DXM is a fuzzy black and white TV, [psilocybin](#) is high definition color virtual reality," says Griffiths.

More information: Theresa M. Carbonaro et al. Subjective features of the psilocybin experience that may account for its self-administration by humans: a double-blind comparison of psilocybin and dextromethorphan, *Psychopharmacology* (2020). [DOI: 10.1007/s00213-020-05533-9](#)

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